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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2021

Program: MSc Chemistry **Semester:** III

Course: General Pharmacology **Duration:** 03 hours

Course Code: HSPT8009 **Max. Marks:** 100

Instructions: All questions are compulsory

	SECTION A **(Type the answers in test box)**	**(5Q x4M= 20 Marks)**	**CO**
	MCQs, One or two line answers.		
Q1	A. Maximum first pass metabolism is seen by which route of administration a. Intravenous b. Intramuscular c. Intradermal d. Oral B. The parameters required to calculate renal clearance a. Rate of elimination and half-life b. Half-life and plasma concentration c. Half-life and volume of distribution d. Rate of elimination and plasma concentration C. Therapeutic index of the drug is an indicator of its- a. Potency b. Safety c. Toxicity d. Efficacy D. EC_{50} is the measure of a. Toxicity b. Potency c. Efficacy d. Bioavailability	**4**	CO1

Q2	A. pKa is the value at which the drug is- a. 50% ionized b. 10% ionized c. 90% ionized d. 25% ionized B. Acidic drugs bind to a. Globulin b. Alpha-1 glycoprotein c. Albumin d. None C. A highly ionized drug in a. Is excreted mainly by the kidney b. Can cross blood brain easily c. Is well absorbed from the intestine d. Accumulates in the cellular lipids D. Most of the drug are excreted in- a. Faeces b. Urine c. Saliva d. Sweat	**4**	**CO2**
Q3	A. Zero order kinetic is independent of- a. Plasma concentration b. Clearance c. Volume of distribution d. Half-life B. What is bioavailability? C. Define clearance. D. Define therapeutic index.	**4**	**CO2**
Q4	A. In which of the following clinical trial phases ethical clearance is not required- a. Phase I	**4**	**CO3**

	b. Phase II c. Phase III d. Phase IV B. Define essential drugs. C. Give two examples of counterirritant used as drugs. D. What is teratogenicity?		
Q5	A. What is adverse drug reaction? B. What are prodrugs? C. Explain the term orphan drugs. D. Define pharmacovigilance.	**4**	**CO3**
	SECTION B **(Scan and upload)**	**(4Qx10M=40 Marks)**	**CO**
Q1	A. Write a note on sources of drugs B. Classify routes of drug administration	**5+5**	**CO1**
Q2	A. Elaborate factors effecting bioavailability B. What are the clinical significance of plasma protein bounding	**5+5**	**CO2**
Q3	Write a note on a. Penetration of drugs into brain and CSF b. Zero and first order kinetics	**5+5**	**CO3**
Q4	A. Describe receptor occupation theory B. Write on approaches to drug discovery/ invention	**5+5**	**CO4**
	SECTION C **(Scan and upload)**	**(2Qx15M=30 Marks)**	**CO**
Q1	What is biotransformation? Give details on phases in biotransformation and their subtypes.	20	**CO2**
Q2	Define receptors. Write a detailed note of transducer mechanism of drug action.	20	**CO3**